

REMARKS

Claim 9 has been amended to emphasize that the top wall is flat and is imperforate except for the vapor exit aperture, is rigidly joined to the left, right, front and back walls, and extends longitudinally. Claim 10 has been amended also to stress that the top wall is flat, rigidly joined to other walls and, that the vapor restrictors are imperforate.

Basis for the amendment is to be found in the specification as originally filed.

The purpose of the invention is to provide a flame of reliably constant, rectangular appearance in a domestic fireplace. To that end, the invention must satisfy the conflicting requirements of providing a flame sufficiently long lasting to avoid the inconvenience and expense of overly frequent replacement, economy, handling safety by the consumer and a reservoir of sufficiently small size for concealment behind artificial logs.

According to the invention, such is achieved by an elongate, rectangular, gel fuel filled cartridge, imperforate except for a rectangular vapor exit aperture surrounded by flat top wall portions rigidly joined to upper edges of side and end walls and extending parallel to the bottom wall and forming vapor restrictors which permanently maintain the predetermined optimal rectangular flame configuration, limit the burning rate to a desirable minimum while the restricted air access also maximizes flame visibility.

As a result of the flat top wall portions or vapor restrictors extend parallel to the base wall, the amount of gel filling can be maximized in relation to the cartridge height which can therefore be kept desirably low, facilitating concealment behind artificial logs, while minimal space remains above the gel reducing the amount of residual vapor accumulation and any risk of sudden flaring when the cartridge is relighted, otherwise possibly arising from a greater accumulation over time of an air/vapor mixture in the confined space above the fuel.

From a safety aspect, it is also undesirable for the consumer to be able to vary flame exit aperture in the interests of minimizing handling as well as maintaining constant a predicable, optimized, flame appearance - obtained by rigidly joining of the top wall and vapor restrictors to the side and end walls.

In contending the rejection of the claims under 35 USC 102 as anticipated by Orlov, it is pointed out that the examiner has apparently failed to consider the teaching of the reference as a whole in apparently treating the drawer 30 as the claimed cartridge.

According to its ordinary meaning, a cartridge is a unitary, direct container of a charge which holds the charge in a state ready for discharge. A comparison may be made with an explosive cartridge for a firearm, an ink cartridge conveyed into printing position by a carriage of an ink jet printer, or an electric battery.

In contrast to a cartridge structure, the drawer 30 is not filled with gel fuel, as claimed, but is provided for transportation of the reservoir 32 containing gel between operating and filling positions.

The drawer may be considered somewhat similar to the rifle bolt (or revolver cylinder) in conveying a cartridge into the firing chamber position for discharge and removing the empty cartridge case from the firing chamber/position subsequent to discharge.

Furthermore, as taught in col 2, lines 4 to col. 4 line 5, of Orlov, the aperture plate 34 and snuffer plate 52 can be pivoted away from a top of the reservoir 44 when the drawer is pulled to a forward position. It is clear, therefore, that the reservoir 32 does not comprise a top wall rigidly joined to its other walls, which distinction also applies if the drawer is treated as the fuel cartridge.

Accordingly, it is respectfully submitted that the rejection under 35 USC 102 is inappropriate.

A question of obviousness over Orlov should not arise, as, for operation, the aperture plate cannot be rigidly joined to the drawer walls as Orlov requires that the aperture plate be pivoted upwards away from the draw to permit the reservoir to be replaced.

Furthermore, the Orlo structure is not self-regulating but relies on the manual positioning of the snuffer plate to partially close the aperture to regulate the amount of flame, (Col 4, lines 6-9).

In contending the examiner's rejection of the claims under 35 USC 103 as

unpatentable over Ferrara in view of Orlov, it is pointed out that the Ferrara teaching as a whole is specifically purposed for production of controlled, efficient, burning in an outside barbeque by the provision of a lid positioned on a reservoir which lid is provided with air vent openings 44 located below and adjacent a flame opening to increase the air vapor ratio - a convection forced combustion effect, accelerating the rate of fuel burning.

That represents a different and opposite purpose from the claimed invention which requires that the top or covering wall of the cartridge be imperforate except for the vapor exit opening which intentionally prevents air access into the cartridge to produce a desirably more visible flame with little heat and extended cartridge life.

It is respectfully submitted that, the claimed invention cannot therefore be considered obvious over Ferrara in view of Orlov, according to the meaning of 35 USC 103.

Furthermore, Ferrara teaches that upper ends of the walls should be flared outwardly increasing the exposed surface area and therefore the vaporization rate of the fuel - a teaching opposite in approach and effect to the claimed invention, providing further evidence for the claimed invention not to be deemed obvious over the applied references.

In addition, Ferrara teaches that the lid (top wall) is domed, increasing the volume of vapor /air mixture contained available for burning above the reservoir and the effective heat output, as desired for barbecuing, which as a direct result, increases the rate of burning.

In contrast, the claims require that the top wall of the cartridge be flat and extend parallel to the bottom wall which, intentionally, severely restricts both the air access producing a slow burning, visible flame and the amount of accumulated vapor to avoid risk of flaring, in direct contrast and contrary or opposite to the structure and purpose of the domed lid of the reference.

Still further, the claimed invention requires that the top wall (and vapor restrictors) are rigidly joined to the side and end walls of the fuel cartridge further distancing the claimed invention from the structure taught by Ferrara which teaches that

the lid (top wall) is separate from the reservoir, as needed to permit the frequent removal and refilling of the reservoir, necessitated by the intentionally enhanced burning rate. The provision of a removable lid required to be accurately positioned on the top of the reservoir for effective burning involves the additional difficulty of manipulation by the consumer in the confined space of a loose log filled fireplace and poses an inherent safety risk which would deter adoption of the Ferrara structure in the domestic environment of intended use.

The above mentioned risk of flaring would clearly be inherently much more hazardous in the environment of the domestic fireplace than an outside barbeque. Additionally, flaring may not only cause dislodgement of the loose piece lid directly by the minor explosive force but may also startle a person lighting the fuel, possibly causing them to jump or otherwise react reflexively, and inadvertently dislodge the lid or move the reservoir which increased risk would deter the man of ordinary skill from even considering any burner which is a combination of an alcohol filled reservoir with a domed and air vented, loose-piece lid in environment of the domestic fireplace .

It is apparent therefore that not only do the structural differences represent a significant advance in the practical working environment of the invention-the domestic fireplace- but the teaching of the applied art would actually direct the man of ordinary skill away from adopting the solution provided by the claims.

Accordingly, it is submitted that the rejection under 35 USC 103 is inappropriate and that the claims now presented define patentable subject matter.

Favorable reconsideration of the application is requested.

Respectfully submitted,

/Robert .W. J. Usher/
Robert W.J.Usher
Regn 30923 Customer 04518
Agent for the Applicant Tel:212 633 1076